Abstract

A system and method for that allows one part of an atomic layer deposition (ALD) process sequence to occur at a first temperature while allowing another part of the ALD process sequence to occur at a second temperature. In such a fashion, the first temperature can be chosen to be lower such that decomposition or desorption of the adsorbed first reactant does not occur, and the second temperature can be chosen to be higher such that comparably greater deposition rate and film purity can be achieved. Additionally, the invention relates to improved temperature control in ALD to switch between these two thermal states in rapid succession. It is emphasized that this abstract is provided to comply with rules requiring an abstract. It is submitted with the understanding that it will not be used to interpret or limit the scope or meaning of the claims. [37 C.F.R. § 1.72(b)].